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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,303	02/27/2004	Takashi Tomiyama	03500.017919.	4362

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EXAMINER	
BUTLER, PATRICK NEAL	
ART UNIT	PAPER NUMBER
1791	
MAIL DATE	DELIVERY MODE
06/23/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/787,303	TOMIYAMA ET AL.	
	Examiner	Art Unit	
	Patrick Butler	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claim 1, the roughness measurement of the blade surface is not described in a way that indicates which version of the test method should be used (see Japanese Standards Association: Detailed Standard Information - JIS B 0601:2001). Thus, the metes and bounds of the claim are unclear as to which version of the test method should be used to determine the claimed measurement. Claim 3 is rejected via its dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al (U.S. Patent 4,825,249) in view of Ferrigno (US Patent No. 3,024,209), Cahill et al (U.S. Patent 3,387,071), and Garlington (US Patent No. 2,926,389).

With respect to Claims 1 and 3, Oki discloses a process for producing a cleaning blade reading on claim 1. Oki teaches providing a urethane cleaning blade for use with a photoelectronic copying machine and coating it with a mixture that includes a diisocyanate compound to deliver wear resistance and lubricating properties (see col. 1, lines 60-68; col. 2, line 47 through col. 3, line 19; and col. 3, lines 58-63). Oki further teaches that the isocyanate compound is caused to react (cure) on the surface of the urethane substrate with unreacted elements thereon (see col. 2, lines 31-46). Oki teaches that the coating is applied by dipping (impregnating, immersing), as required by claims 1 and 3 (see col. 3, lines 38-43). Oki's treatment causes the surface layer to form allophanate bonds to the extent that only some of the layer is left unreacted (formed chiefly of allophanate linkages) (see col. 2, lines 15-23).

Oki does not disclose having water in the blade being treated but also does not appear to expressly teach that the urethane has a water content of 1% by weight or less.

Ferrigno teaches that additives of a reaction with urethane and isocyanate should be free of moisture, or less than about 1% free moisture, due to its reacting with the isocyanate (see col. 5, lines 51-57). Moisture was avoided via drying (see col. 9, lines 39-46). When these two aspects are considered together, Ferrigno's teaching is therefore to dry the agents in a reaction system of isocyanate and urethane.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Ferrigno's teaching of drying to prevent moisture in a

reaction system of isocyanate and urethane with Oki's method of reacting urethane and isocyanate in order to minimize isocyanate unable to react with the urethane.

Oki does not teach removing excess compound with warm or hot air having a temperature sufficient to render the compound flowable, as required by claim 1. Oki further does not teach removing excess isocyanate compound with a solvent, as required by claim 2.

Cahill et al, hereafter "Cahill", teaches forming a urethane object, in this case a fiber, by using an excess of an isocyanate compound and removing this excess with hot air in reference claims 4 and 5. Herein Cahill refers to excess extender, making reference to the reaction functionality of the isocyanate. Using a temperature above the melting point of the isocyanate compound, thereby maintaining flowability for the purpose of sheeting the fluid, would have been obvious as a matter of choice to one skilled in the art.

Garlington teaches using a solvent to dissolve uncured polyurethane from foam (further removing with a solvent the isocyanate compound remaining on the blade surface) (see col. 3, lines 17-43).

Oki, Cahill, and Garlington are combinable because they are concerned with a similar technical field, namely, urethane compositions. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Oki the isocyanate removal processes as taught by Cahill and Garlington. The motivation to do so would have been to prevent deterioration of lubricating properties by any unreacted

end reactive groups remaining (see lines 53-55 in column 3 of Oki) and further remove unreacted polyurethane (see Garlington, col. 3, lines 17-43).

With respect to the claimed limitations of the formed cleaning blade's roughness, the contact portion of the cleaning blade formed by Oki in view of Ferrigno, Cahill, and Garlington would having the ten-point average roughness Rz (JIS B 0106) of 5 micrometers or less principally because it is made by the same process steps as claimed.

Response to Arguments

Applicant's arguments filed 04 December 2010 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC §103(a) rejections. Applicant's arguments appear to be on the grounds that:

1) Oki's teaching of preferentially dip coating is different from Applicant's process of impregnation by dipping into an isocyanate bath which is at a temperature at which the isocyanate is in a liquid state, and the urethane may be fibrous or porous to facilitate impregnation.

2) The newly added limitation of surface roughness is not taught by the references as applied.

The Applicant's arguments are addressed as follows:

1) As recited above, Oki teaches that the coating is applied by dipping (impregnating, immersing), as required by claims 1 and 3 (see col. 3, lines 38-43).

1) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., dipping into an isocyanate bath which is at a temperature at which the isocyanate is in a liquid state, and the urethane may be fibrous or porous) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

2) As recited above:

> With respect to the claimed limitations of the formed cleaning blade's roughness, the contact portion of the cleaning blade formed by Oki in view of Ferrigno, Cahill, and Garlington would having the ten-point average roughness Rz (JIS B 0106) of 5 micrometers or less principally because it is made by the same process steps as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m.-5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. B./
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791